



M E M O R A N D U M

**City of Austin
Financial Services Department
Purchasing Office**

DATE: August 1, 2019
TO: Memo to File
FROM: Georgia Billela, Procurement Specialist III
RE: MA 2200 NI190000015

This Master Agreement Contract was created and administered by Austin Water. All original documents are located with the department. The Purchasing Office is not responsible for any procurement action for this Master Agreement Contract other the creation of the payment mechanism for accounting purposes.

**INTERLOCAL AGREEMENT BETWEEN
THE CITY OF AUSTIN
AND
UNIVERSITY OF TEXAS
FOR
CONSULTANT SERVICES**

This agreement is made on the 13 day of November 2018 by and between the City of Austin (City), a home-rule municipality incorporated by the State of Texas, and The University of Texas at Austin, on behalf of its Center for Transportation Research (Consultant or Contractor) having offices at 3925 West Braker Lane, Building 156, Suite 3.340, Austin, TX 78759-5316.

SECTION I. GRANT OF AUTHORITY, SERVICES AND DUTIES

- 1.1 Engagement of the Consultant.** Subject to the general supervision and control of the City, as exercised by the Designated Representative, and subject to the provisions of the Terms and Conditions contained herein, the Consultant is engaged to provide the services forth in Section II, the Scope of Work. The Consultant shall begin work on the project immediately upon Contract award.
- 1.2 Designation of Key Personnel.** The Consultant's Principal Investigator for this engagement shall be Dr. Kevin Folliard, 512-232-3591. The City's Designated Representative for the engagement shall be Chris Chen, 512-972-0240.
- 1.3 Responsibilities of the Consultant.** The Consultant shall be responsible for providing all personnel, personal office space, and other resources required for providing the services described in Section II, the Scope of Work. The Consultant will be available to the Designated Representative to discuss and resolve any contractual issues that might arise during the term of this Agreement, and shall participate regularly in conference calls or meetings for status reporting. The Consultant shall promptly inform the Designated Representative of any problems encountered that might threaten the timely completion or the adequacy of results obtained in executing the Scope of Work. In the event that the need arises for the Consultant to perform services beyond those stated in the Scope of Work, the Consultant and the Designated Representative will negotiate mutually agreeable terms and compensation for completing the additional services.
- 1.4 Responsibilities of the Designated Representative.** The Designated Representative will be responsible for exercising general oversight of Consultant's efforts in completing the Scope of Work. Specifically, The Designated Representative will be available to the Consultant to discuss and resolve any contractual issues that might arise during the term of this Agreement, shall participate regularly in conference calls or meetings for status reporting, and shall promptly review any reports or deliverables submitted by the Consultant.

SECTION II. SCOPE OF WORK. Consultant will provide the following to the City.

- 2.1** The Consultant will evaluate the feasibility of beneficially using the lime residuals generated by the City's water treatment process at Ullrich Water Treatment Plant, Davis Water Treatment Plant, and Handcox Water Treatment Plant through a full-scale trial with a cement manufacturer selected by the Consultant. The City will provide transportation of up to 5,000 tons of the lime residuals to a location of the Consultant's choosing within 30 miles of the City's Shaw Lane facility. The Consultant will give recommendations on potential beneficial uses of lime residuals based on their findings. See the attached Scope of Work for additional details.

- 2.2 The Consultant will present findings to the COA at the end of the study and shall submit to the Designated Representative a written report summarizing the work and, as soon as possible thereafter, the Consultant and the University's Office of Accounting will submit a financial report of expenses relating to the Research Program. The Consultant shall also submit a comprehensive final report within one hundred twenty (120) days of termination of the Agreement which shall contain, but which need not be limited to, the following information:
- 2.2.1 A final invoice, if not previously submitted, for expenses of the Research Program for the prior year, which reflects cumulative expenses incurred during the term of the Agreement (Office of Accounting); and
 - 2.2.2 A report of all activities undertaken and accomplishments achieved through the Research Program during the prior year.
- 2.3 **PROJECTED START DATE:** Start date for this project will be November 13, 2018.

SECTION III. FEES:

- 3.1 **COMPENSATION.** As consideration for the performance by Consultant of its obligations under this Agreement, City will pay the Consultant an amount equal to its expenditures and reasonable overhead in conducting the project subject to a maximum expenditure limitation of \$98,500, plus a contingency of \$4,925 for a total not to exceed \$103,425.
- 3.2 **Invoices.** The Consultant shall submit invoices for fees and expenses monthly or within a month following submission of the final deliverable product for this project. Invoices shall be mailed to: City of Austin, ATTN: Bill Stauber, Austin Water, 625 E. 10th Street, Suite 415, Austin, Texas 78701.
- 3.3 **Payment.** All proper invoices received by the Designated Representative will be paid within 30 days of receipt of the invoice. The Designated Representative may withhold or set off the entire payment or part of any payment otherwise due the Consultant to such extent as may be necessary on account of:
- 3.3.1 third party claims are filed or reasonable evidence indicating probable filing of such claims;
 - 3.3.2 damage to City property by the Consultant;
 - 3.3.3 failure of the Consultant to submit proper invoices with all required attachments and supporting documentation; or
 - 3.3.4 failure of the Consultant to comply with any material provision of this Agreement.
 - 3.3.5 Payments should be made payable to The University of Texas at Austin, make reference to the Principal Investigator, Agreement number and title of the Research Program funded under this Agreement, and submitted to the following address:

The University of Texas at Austin
Office of Accounting
P.O. Box 7159
Austin, Texas 78713-7159
Phone: (512) 471-6231

3.4 Insurance Requirements. City agrees that Consultant is an agency of the State of Texas and as such is precluded from granting full indemnity in an agreement with another entity based on the Texas Constitution and the doctrine of sovereign immunity for the State of Texas.

- 3.4.1** Employees of the Consultant are provided worker's compensation insurance coverage under a self-insured, self-managed program as authorized by the Texas Labor Code, Chapter 503.
- 3.4.2** Consultant purchases automobile liability insurance for all Consultant owned, hired, and non-owned vehicles with limits of \$250,000 per person and \$500,000 per accident for bodily injury and \$100,000 for property damage. These damage limits are set by the Texas Tort Claims Act (the Act), Chapter 101 of the Texas Civil Practice and Remedies Code.
- 3.4.3** Consultant does not purchase general liability or employer's liability insurance for its general operations. However, the Act does provide a limited waiver of the State's sovereign immunity. The Act may provide a remedy for claimants who make tort claims that fall under its provisions. These claims fall into two general categories: (i) injuries arising out of use of publicly owned motor vehicles and motor-driven equipment and (ii) injuries arising out of conditions or use of property. Consultant's liability is limited under the Act. Liability in cases of personal injuries or death is limited to a maximum amount of \$250,000 per person and \$500,000 for each single occurrence. The maximum amount of liability for injury to or destruction of property is \$100,000 for each single occurrence.

SECTION IV. MISCELLANEOUS TERMS AND CONDITIONS

- 4.1 Term.** This Agreement shall become effective on the date first stated above and shall expire January 1, 2022.
- 4.2 Interpretation.** This Agreement is intended by the parties as a final, complete and exclusive statement of the terms of their agreement. No course of prior dealing between the parties or course of performance or usage of the trade shall be relevant to supplement or explain any term used in this Agreement. Although this Agreement may have been substantially drafted by one party, it is the intent of the parties that all provisions be construed in a manner to be fair to both parties, reading no provisions more strictly against one party or the other. Whenever a term defined by the Uniform Commercial Code, as enacted by the State of Texas, is used in this Agreement, the UCC definition shall control, unless otherwise defined in this Agreement.
- 4.3 Invalidity.** The invalidity, illegality, or unenforceability of any provision of this Agreement shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. Any void provision shall be deemed severed from this Agreement and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision held to be void. The parties further agree to reform this Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision. The provisions of this section shall not prevent this entire Agreement from being void should a provision which is the essence of this Agreement be determined to be void.
- 4.4 Modifications.** This Agreement can be modified or amended only by a writing signed by both parties. No pre-printed or similar terms on any Consultant invoice, order or other document shall have any force or effect to change the terms, covenants, and conditions of this Agreement.

4.5 Waiver. No claim or right arising out of a breach of this Agreement can be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration and is in writing signed by the aggrieved party. No waiver by either the Consultant or the City of any one or more events of default by the other party shall operate as, or be construed to be, a permanent waiver of any rights or obligations under this Agreement, or an express or implied acceptance of any other existing or future default or defaults, whether of a similar or different character.

4.6 Independent Consultant. This Agreement shall not be construed as creating an employer/employee relationship, a partnership, or a joint venture. The Consultant's services shall be those of an independent Consultant. The Consultant agrees and understands that this Agreement does not grant any rights or privileges established for employees of the City.

4.7 Confidentiality. The Parties may wish, from time to time, in connection with work contemplated under this Agreement, to disclose Confidential Information to each other. Each party will use reasonable efforts to prevent the disclosure of any of the other party's Confidential Information to third parties for a period of three (3) years from expiration or termination of this Agreement, provided that the recipient party's obligation hereunder shall not apply to Information that:

- (1) is not disclosed in writing and marked with an appropriate confidentiality legend or, if disclosed orally or visually, is not identified as confidential at the time of oral or visual disclosure and subsequently reduced to writing and labeled with an appropriate confidentiality legend within thirty (30) days of disclosure;
- (2) is already in the recipient party's possession at the time of disclosure thereof;
- (3) is or later becomes part of the public domain through no fault of the recipient party;
- (4) is received from a third party having no obligations of confidentiality to the disclosing party;
- (5) is independently developed by the recipient party; or
- (6) is required by law or regulation to be disclosed.

In the event that information is required to be disclosed pursuant to subsection (6), the party required to make disclosure shall notify the other to allow that party to assert whatever exclusions or exemptions may be available to it under such law or regulation.

4.8 Workforce.

Consultant shall employ only orderly and competent workers, skilled in the performance of the services they will perform under the Contract.

Consultant, its employees, subcontractors, and subcontractor's employees may not while engaged in participating or responding to a solicitation or while in the course and scope of delivering goods or services under a City of Austin contract or on the City's property:

- i. use or possess a firearm, including a concealed handgun that is licensed under state law, except as required by the terms of the contract, or
- ii. use or possess alcoholic or other intoxicating beverages, illegal drugs or controlled substances, nor may such workers be intoxicated, or under the influence of alcohol or drugs, on the job.

If the City or the City's representative notifies the Consultant that any worker is incompetent, disorderly or disobedient, has knowingly or repeatedly violated safety regulations, has possessed any firearms, or has possessed or was under the influence of alcohol or drugs on the job, the Consultant shall immediately remove such worker from Contract services, and may not employ such worker again on Contract services without the City's prior written consent.

4.9 Indemnity.

4.9.1 Definitions:

4.9.1.1 "Indemnified Claims" shall include any and all claims, demands, suits, causes of action, and judgments, including all costs and expenses of litigation, mediation or other alternate dispute resolution mechanism, including attorney and other professional fees for:

- (i) damage to or loss of the property of any person (including, but not limited to the City, the Consultant, and their respective agents, officers, and employees); and/or
- (ii) death, bodily injury, illness, disease, worker's compensation, loss of services, or loss of income or wages to any person (including but not limited to the agents, officers, and employees of the City and the Consultant).

4.9.1.2 "Fault" shall include negligence willful misconduct, or a breach of any legally imposed strict liability standard.

4.9.2 To the extent allowed by the Constitution and laws of the State of Texas, Consultant shall defend (at the option of the City), indemnify, and hold the City, its successors, assigns, officers, employees and elected officials harmless from and against all Indemnified Claims to the extent they resulted from the Fault of the Consultant, or the Consultant's agents, employees or subcontractors, in the performance of the Consultant's obligations under this Agreement. Nothing herein shall be deemed to limit the rights of the City or the Consultant (including, but not limited to, the right to seek contribution) against any third party who may be liable for an Indemnified Claim.

4.10 Right to Assurance. Whenever one party to this Agreement in good faith has reason to question the other party's intent to perform, demand may be made to the other party for written assurance of the intent to perform. In the event that no assurance is given within the time specified after demand is made, the demanding party may treat this failure as an anticipatory repudiation of this Agreement.

4.11 Default. The Consultant shall be in default under this Agreement if the Consultant fails to fully, timely, and faithfully perform any of its material obligations under this Agreement, becomes insolvent or seeks relief under the bankruptcy laws of the United States.

4.12 Termination for Cause. In the event of a default by the Consultant, the City shall have the right to terminate this Agreement for cause, by written notice effective fifteen (15) days, unless otherwise specified, after the date of such notice, unless the Consultant, within such fifteen (15)-day period, cures such default, or provides evidence sufficient to prove to the City's reasonable satisfaction that such default does not, in fact, exist. All rights and remedies under this Agreement are cumulative and are not exclusive of any other right or remedy provided by law.

4.13 Termination Without Cause. The City shall have the right to terminate this Agreement, in whole or in part, without cause any time upon fifteen (15) days' prior written notice. Upon receipt of a notice of termination, the Consultant shall promptly cease all further work pursuant to this Agreement, with such exceptions, if any, specified in the notice of termination. The City shall pay Consultant, to the extent of funds Appropriated or otherwise legally available for such purposes, for all work in progress, OEM charges that cannot be recovered, goods delivered and services performed, obligations incurred prior to the date of termination, and reasonable project shut down costs, in accordance with the terms hereof.

4.14 Notices. Any notice, request, or other communication required or appropriate to be given under this Agreement shall be in writing and shall be deemed delivered three (3) business days after postmarked if sent by U.S. Postal Service Certified or Registered Mail, Return Receipt Requested. Routine communications may be made by first class mail, facsimile or other commercially accepted means. Notices to the Contracting Agency and the Consultant shall be addressed as follows:

to the City:

City of Austin
Austin Water
Attn: Chris Chen
625 E. 10th Street, Suite 800
Austin, Texas 78701
Phone: (512) 972-0240
FAX: (512) 972-0111

to the Consultant:

The University of Texas at Austin
Office of Sponsored Projects
3925 West Braker Lane
Building 156, Suite 3.340
Austin, TX 78759-5316
Phone: (512) 471-6424
FAX: (512) 471-6564

with a copy to:

Kevin J. Folliard, Ph.D.
Professor and Austin Industries Endowed Teaching Fellow
Department of Civil, Architectural, and Environmental Engineering
The University of Texas at Austin
Ernest Cockrell Jr. Hall
301 E. Dean Keeton St., Stop C1700
Austin, TX 78712
Phone: (512) 232-3591
FAX: (512) 471-5870

4.15 Gratuities. The City may, by written notice to the Contractor, cancel the Contract without liability if it is determined by the City that gratuities were offered or given by the Contractor or any agent or representative of the Contractor to any officer or employee of the City of Austin with a view toward securing the Contract or securing favorable treatment with respect to the awarding or amending or the making of any determinations with respect to the performing of such contract. In the event the Contract is canceled by the City pursuant to this provision, the City shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by the Contractor in providing such gratuities.

4.16 Fraud. Fraudulent statements by the Contractor on any Offer shall be grounds for the termination of the Contract for cause by the City and may result in legal action.

4.17 Dispute Resolution.

- A. If a dispute arises out of or relates to the Contract, or the breach thereof, the parties agree to negotiate prior to prosecuting a suit for damages. However, this section does not prohibit the filing of a lawsuit to toll the running of a statute of limitations or to seek injunctive relief. Either party may make a written request for a meeting between representatives of each party within fourteen (14) calendar days after receipt of the request or such later period as agreed by the parties. Each party shall include, at a minimum, one (1) senior level individual with decision-making authority regarding the dispute. The purpose of this and any subsequent meeting is to attempt in good faith to negotiate a resolution of the dispute. If, within thirty (30) calendar days after such meeting, the parties have not succeeded in negotiating a resolution of the dispute, they may proceed directly to mediation as described below. Negotiation may be waived by a written agreement signed by both parties, in which event the parties may proceed directly to mediation as described below.
- B. If the efforts to resolve the dispute through negotiation fail, or the parties waive the negotiation process, the parties may select, within thirty (30) calendar days, a mediator trained in mediation skills to assist with resolution of the dispute. Should they choose this option, the City and the Contractor agree to act in good faith in the selection of the mediator and to give consideration to qualified individuals nominated to act as mediator. Nothing in the Contract prevents the parties from relying on the skills of a person who is trained in the subject matter of the dispute or a contract interpretation expert. If the parties fail to agree on a mediator within thirty (30) calendar days of initiation of the mediation process, the mediator shall be selected by the Travis County Dispute Resolution Center (DRC). The parties agree to participate in mediation in good faith for up to thirty (30) calendar days from the date of the first mediation session. The City and the Contractor will share the costs of mediation equally to the extent allowed by the Constitution and the laws of the State of Texas. Nothing in this Agreement shall preclude either party from pursuing any remedies existing at law and in equity as may be available through a court of competent jurisdiction.

4.17 No Contingent Fees. The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure the Contract upon any agreement or understanding for commission, percentage, brokerage, or contingent fee, excepting bona fide employees of bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty, the City shall have the right, in addition to any other remedy available, to cancel the Contract without liability and to deduct from any amounts owed to the Contractor, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

4.18 Assignment-Delegation. The Contract shall be binding upon and inure to the benefit of the City and the Contractor and their respective successors and assigns, provided however, that no right or interest in the Contract shall be assigned and no obligation shall be delegated by the Contractor without the prior written consent of the City. Any attempted assignment or delegation by the Contractor shall be void unless made in conformity with this paragraph. The Contract is not intended to confer rights or benefits on any person, firm or entity not a party hereto; it being the intention of the parties that there be no third party beneficiaries to the Contract.

4.19 Right to Audit.

4.19.1. The Contractor agrees that the representatives of the Office of the City Auditor or other authorized representatives of the City shall have access to, and the right to audit, examine, or reproduce, any and all records of the Contractor related to the performance under this Contract. The Contractor shall retain all such records for a period of three (3) years after final payment on this Contract or until all audit and litigation matters that the City has brought to the attention of the Contractor are resolved, whichever is longer. The Contractor agrees to refund to the City any overpayments disclosed by any such audit.

4.19.2 The Contractor shall include section a. above in all subcontractor agreements entered into in connection with this Contract.

4.20 Publications. All published material and written reports submitted under the Contract must be originally developed material unless otherwise specifically provided in the Contract. When material not originally developed is included in a report in any form, the source shall be identified.

4.21 Rights to Contractual Material. Copies of all materials developed and used for this proposal shall be provided to the City. Determination of the public nature of the material is subject to the Public Information Act, Chapter 552, Texas Government Code.

4.21 Ownership and Use of Deliverables.

Contractor owns the entire right, title, and interest, including all patents, copyrights, and other intellectual property rights, in and to all materials, inventions, discoveries, and technology developed solely by Contractor in performance of each Research Program under this Agreement ("Contractor Technology") for its non-commercial research and educational purposes. The Parties jointly own the entire right, title and interest, including all patents, copyrights and other intellectual property rights, in and to all inventions, discoveries and technology developed jointly by Contractor and City in performance of this Agreement ("Joint Technology"). City is hereby granted a non-exclusive, royalty-free license to any of Contractor's copyrights in Contractor Technology subject to third party rights if any.


4.22 Claims. If any claim, demand, suit, or other action is asserted against the Contractor which arises under or concerns the Contract, or which could have a material adverse effect on the Contractor's ability to perform thereunder, the Contractor shall give written notice thereof to the City within ten days after receipt of notice by the Contractor. Such notice to the City shall state the date of notification of any such claim, demand, suit, or other action; the names and addresses of the claimant(s); the basis thereof; and the name of each person against whom such claim is being asserted. Such notice shall be delivered personally or by mail and shall be sent to the City and to the Austin City Attorney. Personal delivery to the City Attorney shall be to Law Department, City Hall, 302 W. Cesar Chavez, Austin, Texas 78701, and mail delivery shall be to P.O. Box 1088, Austin, Texas 78767

4.23 Jurisdiction and Venue. This Agreement is made under and shall be governed by the laws of the State of Texas, including, when applicable, the Uniform Commercial Code as adopted in Texas, V.T.C.A., Bus. & Comm. Code, Chapter 1, excluding any rule or principle that would refer to and apply the substantive law of another state or jurisdiction. All issues arising from this Agreement shall be resolved in the courts of Travis County, Texas and the parties agree to submit to the exclusive personal jurisdiction of such courts.

4.24 Authority to Sign. Each of the persons signing below hereby represents and warrants that s/he is signing with full and complete authority to bind the party on whose behalf s/he is signing.

This Agreement is executed in duplicate originals to be effective as of November 13, 2018.

UNIVERSITY OF TEXAS :

Signature:  Digitally signed by Mark Featherston
Date: 2018.11.28 11:10:07 -06'00

Name: Mark Featherston

Title: Assistant Director,
Office of Sponsored Projects

Date: 28 Nov 2018

THE CITY OF AUSTIN:

Signature: 

Name: Greg Meszaros

Title: Director, Austin Water

Date: 11/29/18

FULL-SCALE TRIAL USING LIME RESIDUALS IN PORTLAND CEMENT PRODUCTION: *PROPOSED SCOPE OF WORK AND BUDGET*

Submitted by: Kevin J. Folliard, Racheal Lute, and Thano Drimalas
Laboratory for Infrastructure Materials Engineering
The University of Texas at Austin
Submitted to: City of Austin (Texas)
Date submitted: September 6, 2018

OVERVIEW

1. Project Background and Description

Recent laboratory research at the University of Texas at Austin's Laboratory for Infrastructure Materials showed that lime residuals from water treatment facilities can be successfully used in portland cement concrete (Lute et al. 2017). This research, funded by the City of Austin, evaluated lime residuals from the Shaw Lane Disposal Facility (SLDF), which were used to replace as much as 15 percent of the portland cement in concrete produced and tested in the laboratory. One of the primary recommendations emanating from this study at the University of Texas at Austin was that a full-scale trial should be performed at a local portland cement plant to evaluate the practical and technical feasibility of using lime residuals to produce portland cement (PC) and portland-limestone cement (PLC). The future potential for using lime residuals in cement production is warranted, based on the laboratory trials, and bolstered by the proximity of Shaw Lane to several local cement plants. In fact, there are four portland cement plants within a 70 mile radius of the Shaw Lane Disposal Facility, and these four plants produce almost 40% of the state's cement (4.4 million out of 11 million tons per year statewide). The City of Austin produces about 70,000 tons of lime residuals (~55-60% solids content) per year, which equates to about 40,000 dry tons per year, and these volumes are expected to increase along with Austin's growth. Using a typical, local cement plant as an example, substituting lime residuals for quarried limestone at a dosage of 4 percent (by weight of clinker) could beneficially reuse about 40,000 dry tons of lime residuals annually. Using lime residuals at higher contents could not only consume the annual production of lime residuals, but it could also significantly reduce the volume of residuals currently stored at SLDF.

2. Scope of Work

This scope of work involves the full-scale production of portland cement at a local cement plant identified by the University of Texas, which is within a 25 mile radius from SLDF. This proposed field trial will involve using lime residuals to use as raw kiln feed to produce portland cement (PC). The residuals will be obtained from SLDF and transported to the cement plant, where they will be stored in a covered area. These lime residuals will be added to the raw feed at the limestone crusher and will ultimately be calcined and transformed into portland cement. The UT research team will assist the cement plant in small-scale evaluations in advance of the full-scale trial to ensure that the lime residuals can efficiently be integrated into the raw feed.

Table 1 summarizes the lime residuals to be used in the production of portland cement. For each of the cements shown in Table 1, a wide variety of laboratory tests will be performed, including tests evaluating fresh, hardened, and durability properties of mortar/concrete produced from the cements. Table 2 details the tests to be performed, along with the age of testing. This comprehensive testing program will allow for a detailed understanding of how each of the cements produced with lime residual compare to the everyday

Type I cement produced at the local cement plant. In addition to the tests to be performed on mortar and concrete, the chemical composition of the three cements will be analyzed using X-ray fluorescence (XRF) and X-ray diffraction (XRD), with Rietveld refinement.

Table 1 – Lime residuals to be used to produce portland cement in full-scale field trial.

Cement	Details
Cement 1	Standard cement produced at plant (serves as control)
Cement 2	Cement produced using lime residual obtained from SLDF as partial substitute for quarried limestone (Low to Moderate Dosage of residuals, actual percent to be determined during trial)
Cement 3	Cement produced using lime residual obtained from SLDF (Moderate to High Dosage of residuals, actual percent to be determined during trial)

Table 2 – Testing program to evaluate properties of portland cement produced using lime residuals

Property	Test	Age/Details
<u>Fresh Properties</u>		
Slump	ASTM C 143	
Air content	ASTM C 231	
Unit weight	ASTM C 138	
Heat of Hydration	Isothermal and semi-adiabatic calorimetry	Heat measured for first 7 days of hydration at 73 °F.
Setting time	ASTM C 403	
<u>Hardened Properties</u>		
Compressive strength	ASTM C 39	1, 7, 28, 91 days
Tensile strength	ASTM C 496	28 days
Elastic modulus	ASTM C 496	28 days
Electrical resistivity	Modified RCPT	28 days
Drying shrinkage	ASTM C 157	After 28 days curing
<u>Durability Properties</u>		
Apparent chloride diffusion	ASTM C 1556	Concrete cured for 28 days, then exposed to 4% sodium chloride solution for 91 days.
External sulfate attack	ASTM C 1012	Immersed in 5% calcium sulfate and immersed in 5% sodium sulfate at both 40 °F and 73 °F.
Alkali-aggregate reaction	ASTM C 1260 ASTM C 1293	One exposure block to be cast with each cement and stored outdoors in Austin, TX.
Carbonation	Phenolphthalein solution.	Concrete prisms to be stored unsheltered and sheltered (in Stevenson's screen) outdoors in Austin, TX.

3. Proposed Schedule and Budget

It is proposed that this full-scale trial and associated laboratory testing program will be completed within 36 months of the project start date. It is proposed that the various cements be produced within the first four months of the project and the laboratory testing will begin immediately upon receipt of the cements. Most

of the laboratory tests will be completed within the first two months of the testing program, with the remainder of the time devoted to long-term durability testing. The proposed budget for this three-year project is \$98,500, with the annual funding for year 1 being \$66,500, and the budget for years 2 and 3 being \$16,000 per year. It is assumed that any costs associated with lime residual procurement and hauling will be covered by the City of Austin.

Brief progress reports will be submitted every six months during the course of the project, with a final project report submitted at the end of the three-year project.

4. References

Lute, R., Drimalas, T., and Folliard, K., Beneficial Use of Lime Residuals in Industrial and Infrastructure Applications: A Feasibility Study, The University of Texas at Austin, June 2017.

PRF Questionnaire and Contract Roles & Responsibilities
AW Purchasing email: AWPURDEPT@austintexas.gov**PRF Questionnaire (Including SS Requests)**

1. New equipment purchase: identify in detail what you are buying Not buying any new equipment
2. What is needing to be purchased? Explain in detail. This info needs to match each line item on the PRF. A study will be performed by the UT Center for Transportation Research for AW to determine the viability of using lime residuals from the water treatment plants in the production of portland cement.
3. Why is there a need to purchase this commodity/service? Currently the lime residuals are going to a former rock quarry and are being used to reclaim the land but the quarry has limited capacity and Austin Water is looking for other options
4. Is this a replacement? If so, what it is replacing? This would partially replace hauling the residuals to Shaw Lane.
5. Where will it be used and for what purpose? The results of the study, if promising, will be used to divert water plant residuals from Shaw Lane to other cement manufacturers.
6. Is it critical for AWU operations? If so, please explain. It will be critical in the next few years finding places to take the residuals
7. Could the AWU do without it? If not, why not? AW needs to find other ways to use the residuals, the quarries are not a viable option as there aren't many left
8. Can the old equipment be repaired? If not, why not? N/A
9. How frequent is the usage to merit this purchase? There are several trucks a day going to Shaw Lane with lime residuals.
10. How did we operate before this purchase? Currently trucking all residuals to Shaw Lane.
11. Is this a new process requiring new equipment? If so, please explain. No, not yet. It may end up that we are trucking residuals to cement plants.
12. Was the commodity/service identified in the approved FY budget of the Division requesting the purchase? There are funds for this project

Certificate of Exemptions

13. Why is this procurement a sole source? Why is the vendor the only viable solution? Provide a detail, "tell the story".
14. Include a manufacturer letter stating the justification of the sole source on company letterhead for all soles sources. If a distributor, include a manufacturer letter on company letterhead.
15. What analysis has been done to determine that this procurement is a sole source? (I.e. market research/knowledge, internet searches, evaluation of other companies, information from other municipalities, etc.)

16. Is this item available through any approved City of Austin cooperative? If so, which one? (TXMAS, US Communities, Buyboard, DIR, HGACBUY, NJPA, TCPN, TXSmartBuy) Link to complete list of City approved cooperatives: <http://purchaustintx.coacd.org/intranet/CoopPurch.cfm>
17. Why is no other brand acceptable? Is there a concern regarding warranty, compatibility and/or safety/ health and public safety?
18. Has this procurement been competitively bid in the past? How have we been currently obtaining this item? (i.e. Procard, spot purchases, through a cooperative, etc.)
19. What are other acceptable brands? If not, what makes them unacceptable?
20. Are there territorial or geographic restrictions? What are they?
21. Are there resellers, distributors, or dealers in the market? If so, who?
22. What other suppliers or products/services were considered? What made them unacceptable?
23. If the product is designed to be compatible with existing item, describe the age, value and useful life remaining of the current item.
24. What is the estimated cost of buying a new item? What is the value of buying the addition versus buying all new?
25. Is there a way to retrofit another brand? If so, what is the cost?
26. Is there specialized training or certifications required to maintain or repair the item? If so, explain.
27. What might the estimated cost be of buying a different item? What is the cost comparison?

Contract Rolls & Responsibilities

Contract Managers (CM)/Contact Person/Project Manager/Designee		Contract Management Specialists (CMS)	
	Pre-Contract Award		
Prepare technical Scope of Work (SOW)/Specifications to include clearly-defined deliverables and vendor reporting requirements to assist with contract monitoring		Review SOW/Specifications; add COA or AW language to SOW/Specifications as necessary	
	Post-Contract Award PRIOR to start of work		
<i>Read the contract</i>		Notify contract manager and designated Budget and Accounting staff of all new term contract awards	
Prepare risk assessment using the Risk Assessment Form* to assign an appropriate risk level to the contract—this determines the frequency of desk reviews and whether other activities assigned to the contract manager are mandatory or optional			
For new high-risk contracts only, plan, conduct and document kickoff meeting with Contractor and upload meeting notes			
For other risk levels, determine the need for a kickoff meeting; If needed, plan, conduct and document meeting and upload meeting notes			
	Post-Contract Award after start of work		

Ensure Contractor is providing goods, services, activities, and required documents and reports in conformance with the contract	Act as liaison between COA Purchasing and the contract manager
Appropriately document meetings, disputes and other events	Appropriately document meetings, disputes and other events
Perform and document on-site observations of the first delivery of hazardous materials under a new contract; ensure the person performing the observation is familiar with the contract prior to the observation	Ensure contract extensions, amendments, and changes to existing contracts are communicated to contract managers and designated Budget and Accounting staff
Monitor term and overall utilization of contract; request new contracts at appropriate planning intervals	Monitor and make timely arrangements for contract extensions, amendments and new contracts
Manage contract funding availability and authorize payments after ensuring that Contractor invoices and invoice attachments are correct	
Exercise remedies as appropriate where a Contractor's performance is deficient; notify CMS as needed	Assist with dispute resolution for disputes reported by Contractor or contract manager in a timely manner
Upload documentation to the contract's SharePoint file** and close out the contract	Assist with contract close out activities

**The Risk Assessment Form, as well as other forms for contract monitoring, is available at this link:*

http://awusp.austinwater.com/sites/awu_purchasing/Contract%20Monitoring/CONTRACT%20MONITORING%20MANUAL/Forms/AllItems.aspx

***Document uploads are referenced on the following pages in the Contract Monitoring Manual (these may change as the Manual is updated): 6, 10-13, 15-17, 22-23, 34, 36*